10535279 - GAU: 4181

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	INFORMATION	DISCI	LOSURE	Application Number	10/535,279	70116
	STATEMENT BY	Y APF	PLICANT	Filing Date	11/18/2003	7
	Date Submitted: O	ctobe	r 14 2008	First Named Inventor	Pulickel AJAYAN	OCT 1 4 2008
	Date Submitted. O	Clobe	1 14, 2000	Art Unit	4181	1-001 14 2000
(use as many shee	ts as	necessary)	Examiner Name	Carlos Barcena	13
Sheet	1	of	5	Attorney Docket Number	047182-0140	TO TRADESANT

	U.S. PATENT DOCUMENTS								
Examin er Initials*	Cite	Document Number	Publication Date	Name of Patentee or Applicant of	Pages, Columns, Lines, Where Relevant				
	No.1	Number-Kind Code ² (if known)	MM-DD-YYYY	Cited Document	Passages or Relevant Figures Appear				
/C.B./	B1	6,426,134 B1	07/30/2002	Lavin et al.					
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			FOREIGN PATENT	DOCUMENTS		
Examiner Initials*	Cite No. ¹	Foreign Patent Document Country Code ³ Number ⁴ Kind Code ⁵ (<i>if known</i>)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Documents	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
/Ç.B./	B2	DE 100 38 125 A1	03/07/2002	Infineon Technologies AG		Α
/C.B./	B3	EP 0 949 199 B1	05/21/2003	Horcom Limited et al.		
/C.B./	B4	WO 01/92381 A1	12/06/2001	William Marsh Rice University		
/Ĉ.B./	B5	WO 02/060812 A2	08/08/2002	William Marsh Rice University		

		NON PATENT LITERATURE DOCUMENTS	
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	T _e
/C.B./	B6	Alexandridou et al., "Surface characterization of oil-containing polyterephthalamide microcapsules prepared by Interfacial polymerization," J. Microencapsul., 2001, 18, 767-781.	
(C.B./	B7	Armelin et al., "Study on the Degradability of Poly(ester amide)s Related to Nylons and Polyesters 6,10 or 12,10," Macromol. Chem. Phys., 2002, 203, 48-58.	
/C.B./	B8	Beaman, Ralph G., "Anionic Chain Polymerization," J. Am. Chem. Soc., Sept. 1948, 70, 3115-3118.	
/C.B./	В9	Berti et al., "Sulfur containing polymers. Aromatic polydithiocarbonates and polythiocarbonates: synthesis and thermal properties," Eur. Polym. J., 2002, 38, 1281-1288.	
/C.B./	B10	Boul et al., "Reversible sidewall functionalization of buckytubes," Chem. Phys. Lett., September 3, 1999, 310, 367-372.	
/C.B./	B11	Burroughes et al., "Light-emitting diodes based on conjugated polymers," Nature, Oct. 11, 1990, 347, 539-541.	

Examiner Signature	/Carlos Barcena/	Date Considered	11/20/2008

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	Substitute f	or form 144	9/PTO	Co	Complete if Known		
	INFORMATI	ON DISCL	OSURE	Application Number	10/535,279		
	STATEMEN	T BY APP	LICANT	Filing Date	11/18/2003		
	Date Submitte	d: Octobo	- 14 2009	First Named Inventor	Pulickel AJAYAN		
	Date Submitte	d. Octobe	1 14, 2006	Art Unit	4181		
	(use as many s	sheets as i	necessary)	Examiner Name	Carlos Barcena		
Sheet	2	of	5	Attorney Docket Number	047182-0140		

		NON PATENT LITERATURE DOCUMENTS	
Examiner Initials*	Cite No.1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	Τ ⁶
/C.B./	B12	Chen et al., "Dissolution of Full-Length Single-Walled Carbon Nanotubes," J. J. Phys. Chem. B, 2001, 105, 2525-2528.	
90000000	B13	Chen et al., "Solution Properties of Single-Walled Carbon Nanotubes," Science, October 2, 1998, 282, 95-98.	
	B14	Chern et al., "Interfacial Polyfunctional Condensation: Curing Reaction," J. Appl. Polym. Sci., 1991, 42, 2535-2541.	
	B15	Chern et al., "Behavior of Interfacial Polycondensation on Synthesizing of Poly(amic ester)s," J. Appl. Polym. Sci., 1996, 61, 1853-1863.	
000000000000000000000000000000000000000	B16	Chern et al., "Interfacial polyfunctional condensation: ATR study on polyfunctional interfacial condensation," J. Macromol. Sci. Chem., 1991, A28, 105-128.	
***************************************	B17	Curran et al., Handbook of Organic Molecules and Polymers: Vol. 2, Conductive Polymers: Synthesis and Electrical Properties, 1997, pp. 1-59.	
000000000000000000000000000000000000000	B18	Ederle et al., "Carbanions on Grafted C ₆₀ as Initiators for Anionic Polymerization," Macromolecules, 1997, 30, 4262-4267.	
000000000000000000000000000000000000000	B19	Franco et al., "Incorporation of glycine residues in even-even polyamides. Part II: Nylons 6,10 and 12,10," Polymer, 1999, 40, 2429-2438.	
000000000000	B20	Garg et al., "Effect of chemical functionalization on the mechanical properties of carbon nanotubes," Chem. Phys. Lett., 1998, 295, 273-278.	
200000000000000000000000000000000000000	B21	Gonsalves et al., "Synthesis, Characterization and Biodegradation Test of Nylon 2/6 and Nylon 2/6/6," J. Mater. Chem., 1991, 1(4), 643-647.	
	B22	Gonsalves et al., "Copolymers of Nylon 266 and Nylon 66: Synthesis and Characterization," J. Polym. Sci. Pol. Chem., 1993, 31, 701-705.	
V	B23	Greenham et al., "Efficient light-emitting diodes based on polymers with high electron effinities," Nature, October 14, 1993, 365, 628-630.	
/C.B./	B24	Guemmour et al., "Synthesis and thermal properties of new polyester based on indane-1,3-diol and terephtaloyl chloride," Polym. Bull, 2001, 46, 1-6.	

Signature Carlos Barcena/ Date 11/20/2008	Examiner Signature	/Carlos Barcena/	Date Considered	11/20/2008
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	Substitute for fo	rm 144	9/PTO	Complete if Known		
	INFORMATION	DISCL	.OSURE	Application Number	10/535,279	
	STATEMENT B	Y APP	LICANT	Filing Date	11/18/2003	
	Date Submitted: C	otobo	- 14 2009	First Named Inventor	Pulickel AJAYAN	
	Date Submitted. C	Clobe	14, 2000	Art Unit	4181	-
	(use as many shee	ets as r	necessary)	Examiner Name	Carlos Barcena	
Sheet	3	of	5	Attorney Docket Number	047182-0140	

		NON PATENT LITERATURE DOCUMENTS						
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.						
/C.B./	B25	Hill et al., "Functionalization of Carbon Nanotubes with Polystyrene," Macromolecules, 2002, 35, 9466-9471.						
00000000	B26	Hirsch, Andreas, "Functionalization of Single-Walled Carbon Nanotubes," Angew. Chem., Int. Ed., 2002, 41(11), 1853-1859.						
000000000000000000000000000000000000000	B27	Holzinger et al., "Sidewall Functionalization of Carbon Nanotubes," Angew. Chem., Int. Ed., 2001, 40(21), 4002-4005.						
	B28	Iijima, Sumio, "Helical microtubules of graphitic carbon," Nature, November 7, 1991, 354, 56-58.						
	B29	Jegal et al., "Functional Polyesters and Copolyesters Based on the 4,4'-Dihydroxy-α-methylstilbene," J. Appl. Polym. Sci., 1998, 68, 387-393.						
000000000000000000000000000000000000000	B30	Jiang et al., "Synthesis, Structure, and Ring-Opening Polymerization of Macrocyclic Aromat Esters: A New Route to High-Performance Polyarylates," Macromolecules, 1997, 30, 2839-2842.						
000000000000000000000000000000000000000	B31	Kallitsis et al., "Soluble Polymers with Laterally Attached Oligophenyl Units for Potential Use as Blue Luminescent Materials," Macromolecules, 1997, 30, 2989-2996.						
000000000000000000000000000000000000000	B32	Kroto et al., "C ₆₀ : Buckminsterfullerene," Nature, November 14, 1985, 318, 162-163.						
000000000000000000000000000000000000000	B33	Lei et al., "A new interfacial polymerization method for forming metal/conductive polymer Schottky barriers," Synth. Met., 1992, 47, 351-359.						
000000000000000000000000000000000000000	B34	Li et al., "Synthesis and Characterization of Interfacially Polymerized Films of Tetraphenylporphyrin Derivatives," Langmuir, 1995, 11, 4061-4071.						
20000000000	B35	Liu et al., "Fullerene Pipes," Science, May 22, 1998, 280, 1253-1256.						
V	B36	Mickelson et al., "Fluorination of single-wall carbon nanotubes," Chem. Phys. Lett., October 30, 1998, 296, 188-194.						
/C.B./	B37	Min et al., "Synthesis and Characterization of Some Polyestercarbonates," Polym. J., 2001, 33(9), 694-700.						

Examiner /Carlos Barcena/ Date 11/20/2008 Considered
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	Substitute for fo	orm 14	49/PTO	Complete if Known		
	INFORMATION	DISC	LOSURE	Application Number	10/535,279	
	STATEMENT B	Y API	PLICANT	Filing Date	11/18/2003	
	Date Submitted: (Octobe	or 14, 2008	First Named Inventor	Pulickel AJAYAN	
	Date Submitted. V	JCIODE	51 14, 2000	Art Unit	4181	
	(use as many she	ets as	necessary)	Examiner Name	Carlos Barcena	
Sheet	4	of	5	Attorney Docket Number	047182-0140	

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/C.B./	B38	Morgan et al., "Interfacial Polycondensation. II. Fundamentals of Polymer Formation at Liquid Interfaces," J. Polym. Sci., 1959, 40, 299-327.				
200000000	B39	Nikolaev et al., "Gas-phase catalytic growth of single-walled carbon nanotubes from carbon monoxide," Chem. Pys. Lett., November 5, 1999, 313, 91-97.				
000000000000000000000000000000000000000	B40	Percec, Virgil, "Comments on 'Interfacial Polycondensation. I.," by Emerson L. Wittbecker and Paul W. Morgan, <i>J. Polym. Sci.</i> , XL, 289(1959) and 'Interfacial Polycondensation. II. Fundamentals of Polymer Formation at Liquid Interfaces," by Paul W. Morgan and Stephanie L. Kwolek, <i>J. Polym. Sci.</i> , XL, 200(1950)," J. Polym. Sci.: Part A: Polymer Chemistry, 1996, 34, 519-520.				
0,000,000,000,000	B41	Rutot et al., "Aliphatic polyester-based biodegradable materials : new amphiphilic graft copolymers," Polym. Degrad. Stabil., 2001, 73, 561-566.				
B42		Salehi-Mobarakeh et al., "Ionic Interphase of Glass Fiber/Polyamide 6,6 Composites," Polym. Compos., 1998, 19(3), 264-274.				
200000000000000000000000000000000000000	B43	Sano et al., "Self-Organization of PEO-graft-Single-Walled Carbon Nanotubes in Solutions and Langmuir-Blodgett Films," Langmuir, 2001, 17(17), 5125-5128.				
000000000000000000000000000000000000000	B44	Shaffer et al., "Polystyrene grafted multi-walled carbon nanotubes," Chem. Commun., 2002, 18, 2074-2075.				
000000000000000000000000000000000000000	B45	Shao et al., "Electrical Conductivity in Nylon 66 Thin Films Prepared by Alternating Vapor Deposition Polymerization," Polym. J., 1999, 31(11-2), 1083-1088.				
000000000000000000000000000000000000000	B46	Shimoyama et al., "Fabrication of quantum wire structures by in-situ gas etching and selective-area matalorganic vapor phase epitaxy regrowth," J. Crystal Growth, 1994, 145, 734-739.				
	B47	Shin et al., "Synthesis and Properties of Poly(enaryloxynitriles) Containing Flexible Polyester Units," Macromolecules, 1995, 28, 2212-2217.				
V	B48	Tang et al., "Organic electroluminescent diodes," Applied Phys. Lett., September 21, 1987, 51(12), 913-915.				
/C.B./	B49	Thompson et al., "Synthesis and characterization of aromatic-aliphatic poly(enaminonitriles)," Polymer, 2000, 41, 4991-5000.				

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				Filing Date	11/18/2003	
				First Named Inventor	Pulickel AJAYAN	
				Art Unit	4181	
(use as many sheets as necessary)			necessary)	Examiner Name	Carlos Barcena	
Sheet	5	of	5	Attorney Docket Number	047182-0140	

NON PATENT LITERATURE DOCUMENTS					
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/G.B./	B50	Treacy et al.; "Exceptionally high Young's modulus observed for individual carbon nanotubes," Nature, June 20, 1996, 381, 678-680.			
/C.B./	B51	Varelidis et al., "Characterization of Coatings of Poly(hexamethylene adipamide) Deposited on Carbon Fibers by Interfacial Polymerization Techniques," J. Appl. Polym. Sci., 1995, 55, 1101-1110.			
/C.B./	B52	Vibhute et al., "Synthesis and Characterization of New Cardo Polyesters," J. Polym. Sci. Pol. Chem., 1997, 35, 3227-3234.			
/C.B./	B53	Wei et al., "Thermal Expansion and Diffusion Coefficients of Carbon Nanotube-Polymer Composites," Nano Lett., 2002, 2(6), 647-650.			
/C.B./	B54	Williams et al., "Interfacial Polymerization for the Preparation of Regularly Alternating Polyesteramides," Makromolekulare Chemie, 1963, 54, 54-59.			
/C.B./	B55	Yakobson et al., "Nanomechanics of Carbon Tubes: Instabilities beyond Linear Response," J. Phys. Rev. Lett., April 1, 1996, 76(14), 2511-2514.			
/C.B./	B56	Yoo et al., "Preparation of Dicyanovinyl-Containing Polyarylates and Their Thermal Properties," Polymer(Korea), 1996, 20(3), 439-446.			

Examiner /Carlos Barcena Signature	Date Considered	d 11/20/2008
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